

I. AMENDMENTS

Please amend the subject application as follows:

In the claims:

Please cancel claims 92-97 and 104.

Please amend claims 75-77, 81-83, 88, 98-103, 105-107, 109-111, and 118-132, under the provisions of 37 C.F.R. § 1.121(b) by deleting the bracketed material and inserting the underlined material as follows.

G1 G2
75. (Twice Amended) [An] A duplex comprising an oligonucleotide primer and a template, wherein the primer is [tagged with] coupled chemically to a chromophore or fluorophore [, said chromophore or fluorophore attached] so as to allow chain extension by a polymerase[, wherein the tagged primer has been base-paired to a template].

G1 G2
76. (Twice Amended) The duplex of claim 75, [An extended primer comprising the tagged primer of claim 75, wherein the tagged primer has been base-paired to a template] further comprising the primer extended by [a] the polymerase and hybridized to the template.

77. (Twice Amended) An oligonucleotide comprising the extended primer of claim 76, wherein the [tagged,] extended primer has been separated from the template.

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81. (Twice Amended) A set of duplexes [oligonucleotide primers] comprising [one] two or more of the duplexes of claim 75 [oligonucleotide primers tagged with a chromophore or

F3 with
fluorophore, said chromophore or fluorophore attached so as to allow chain extension by a polymerase, wherein each tagged primer has been base-paired to a template].

F4
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82. (Twice Amended) A set of duplexes comprising two or more of the duplexes of
claim 76 [of claim extended primers comprising the set of primers of claim 81, wherein each
tagged primer has been base-paired to a template and extended by a polymerase].

60-527
83. (Twice Amended) A set of [tagged] oligonucleotides comprising two or more of the
oligonucleotides of claim 77 [the extended primers of claim 82, wherein the tagged, extended
primers are separated from their templates].

F5
10/16/03
88. (Twice Amended) A set of reagents comprising oligonucleotide primers [tagged
with] chemically coupled to one or more chromophores or fluorophores [,
said chromophores or fluorophores attached] so as to allow chain extension by a
polymerase, and
[said set of reagents further comprising] a polymerase.

F6
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98. (Amended) A single-stranded [An] oligonucleotide comprising a first portion and a
second portion, wherein the [a] first portion is tagged with a chromophore or fluorophore so as to
allow chain extension, and wherein said first tagged portion [has been] is hybridized to a
template;

and said first tagged portion [has been] is extended so as to create a second
portion contiguous with the first.

F6 cont

99. (Amended) The oligonucleotide of claim 98, wherein the chromophore or fluorophore is [bound] chemically coupled to the first portion through an amine linkage.

F7 cont

100. (Amended) The oligonucleotide of claim 98, wherein the chromophore or fluorophore is chemically coupled to the first portion [is tagged] at its 5' end or in the vicinity thereof.

G6 G5

101. (Twice Amended) The [primer] duplex of claim 75, prepared by a method comprising [the steps of]:

F7 cont

[providing a] hybridizing a primer to a template, wherein the primer is chemically coupled to [tagged with] a chromophore or fluorophore [, said chromophore or fluorophore attached] so as to allow chain extension by a polymerase [and hybridizing the primer to a sequence which is complementary to the primer].

102. (Twice Amended) The [primer] duplex of claim 101, wherein the chromophore or fluorophore is chemically coupled [bound] to the primer through an amine linkage.

103. (Twice Amended) The duplex [primer] of claim 101, wherein the chromophore or fluorophore is chemically coupled to the primer [is tagged] at its 5' end or in the vicinity thereof.

Sub JH

P8

105. (Thrice Amended) An oligonucleotide produced by the method comprising extending the primer of claim 75 [101] by a polymerase to produce an oligonucleotide [extended primer] and separating the [tagged, extended] oligonucleotide from the [complementary sequence] template.

Sub 106
F8 cont

106. (Thrice Amended) The oligonucleotide of claim 105, wherein the chromophore or fluorophore is chemically coupled [bound] to the oligonucleotide through an amine linkage.

107. (Thrice Amended) The oligonucleotide of claim 105, wherein the chromophore or fluorophore is chemically coupled to the oligonucleotide [is tagged] at its 5' end or in the vicinity thereof.

Sub 109
F9

109. (Four Times Amended) A chain termination method comprising extending the primer of claim 75 by a polymerase to produce an extended primer and separating the extended oligonucleotide from the template [use of the oligonucleotide of claim 105].

F10

110. (Thrice Amended) [The] A chain termination method [DNA sequencing reaction of claim 109,] comprising extending the set of primers of claim 81 by a polymerase to produce a set of extended primers [wherein, in the performance of a set of one or more chain termination DNA sequencing reactions, the tagged oligonucleotides comprising one of the sets are distinguishable from the tagged oligonucleotides comprising the other sets].

Sub 111

111. (Thrice Amended) The chain termination method [DNA sequencing reaction] of claim 110, wherein the [primer includes] reaction comprises [all] four chain termination DNA sequencing reactions, and the [tagged] chemically coupled oligonucleotides comprising each of the [sets] four reactions are distinguishable by [their] spectral characteristics of the chromophore or fluorophore [from the tagged oligonucleotides comprising each of the other sets].

F11
GG

118. (Amended) The duplex [oligonucleotide primer] of claim 75 [73], wherein the primer is DNA.

119. (Amended) The duplex [oligonucleotide primer] of claim 75 [73], wherein the chromophore or fluorophore is detectable by exposure to a high-intensity monochromatic light source.

120. (Amended) The [oligonucleotide primer of claim 73] duplex of any of claims 75 to 77, wherein the chromophore or fluorophore is detectable by exposure to a laser.

121. (Amended) The set of primers [of claim 78] of any of claims 81 to 83, wherein the primers are DNA.

122. (Amended) The set of primers of any of claims 81 to 83 [claim 78], wherein the chromophore or fluorophore is detectable by exposure to a high-intensity monochromatic light source.

123. (Amended) The set of primers of any of claims 81 to 82 [of claim 78], wherein the chromophore or fluorophore is detectable by exposure to a laser.

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124. (Amended) The set of reagents of claim [84] 88, wherein the primers are DNA.

27 7
125. (Amended) The set of reagents of claim [84] 88, wherein the chromophore or fluorophore is detectable by exposure to a high-intensity monochromatic light source.

28 7
126. (Amended) The set of reagents of claim [84] 88, wherein the chromophore or fluorophore is detectable by exposure to a laser.

127. (Amended) The oligonucleotide of [claim 89] of any of claims 105 to 107, wherein the primer is DNA.

128. (Amended) The oligonucleotide of [claim 89], of any of claims 105 to 107 wherein the chromophore or fluorophore is detectable by exposure to a high-intensity monochromatic light source.

129. (Amended) The oligonucleotide of [claim 89] of any of claims 105 to 107, wherein the chromophore or fluorophore is detectable by exposure to a laser.

32 11 13
130. (Amended) The duplex [primer of claim] of any of claims 101 to 103, wherein the primer is DNA.

33 11 13
131. (Amended) The [primer of claim] duplex of any of claims 101 to 103, wherein the chromophore or fluorophore is detectable by exposure to a high-intensity monochromatic light source.

34 11 13
132. (Amended) The [primer of claim] duplex of any of claims 101 to 103, wherein the chromophore or fluorophore is detectable by exposure to a laser.

Please add the following new claims:

133 133. (New) The duplex of any of claims 75 to 77, wherein the chromophore or fluorophore is chemically coupled to the primer through an amine linkage.

134 134. (New) The set of duplexes of any of claims 81 to 83, wherein the chromophore or fluorophore is chemically coupled to the primer through an amine linkage.

*F12
cont*

135. (New) The set of reagents of claim 88, wherein the chromophore or fluorophore is chemically coupled to the primer through an amine linkage.

136. (New) The duplex of any of claims 75 to 77, wherein the chromophore or fluorophore is chemically coupled to the primer at its 5' end or in the vicinity thereof.

137. (New) The set of duplexes of any of claims 81 to 83, wherein the chromophore or fluorophore is chemically coupled to the primer at its 5' end or in the vicinity thereof.

138. (New) The set of reagents of claim 88, wherein the chromophore or fluorophore is chemically coupled to the primer at its 5' end or in the vicinity thereof.